We claim:

1 Particles having an average mean diameter of at least about 100nm, composed of discrete subunits of from 1 to 30 nm in average mean diameter of superparamagnetic material which are separately spaced apart from one another within a covering matrix of non-magnetic, non-metallic material that is compatible with, but in itself non-reactive with, target biological ligands, which particles, when coated with a binding partner to a target biological ligand contained in an aqueous fluid and exposed to such fluid, form complexes with the target biological ligand, which complexes, when exposed to the gradient of a magnetic field, become sequestered from the bulk of aqueous fluid and, when thereafter introduced to the sample receiving end of a dipstick configured immunochromatographic ("ICT") device comprising a strip of bibulous material having at least one immovable stripe of a binding partner for the biological ligand permanently affixed thereto at the end remote from its sample receiving end, become permanently affixed to said immovable stripe when the target ligand reacts with its immovable binding partner, whereby the stripe exhibits a measurable magnetic moment, the intensity of which is correlatable, in a known manner, to the amount of said target ligand recovered from said aqueous fluid.

2 Particles according to claim 1 wherein the discrete subunits of superparamagnetic magnetic material of from 1 to 30 nm in average mean diameter are discrete particles of ferrofluid and the matrix of nonmagnetic, non-metallic material is bovine serum albumen.

3 A process wherein particles as set forth in claim 1

(a) are coated with a target biological binding partner for a biological ligand known to be, or suspected of being, present in an aqueous fluid,

(b) as so coated are then immersed in said fluid and incubated therewith for a time sufficient to enable any target biological ligand present to form complexes with said particles by reacting with its binding partner coated on said particles and

(c) said complexes are thereupon exposed to the gradient of a magnetic field whereby the complexes are sequestered from the bulk of the aqueous fluid.

4 A process according to claim 3 wherein following the sequestration of the complexes formed in step (c), the aqueous fluid is removed, the complexes are washed and dispersed in an aqueous buffer, and

(d) the resulting dispersion is applied to the sample receiving end of a dipstick-configured ICT device comprising a strip of bibulous material having at least one immovable stripe of a binding partner for said biological ligand permanently affixed thereto at the end remote from its sample receiving end,

(e) the dispersion migrates along said strip to said immovable stripe where the complexes, which have said target biological ligand bound thereto permanently bind to said stripe;

(f) the magnetic intensity of the stripe is measured and

(g) that intensity is correlated in a known manner to the amount of said biological ligand removed from the liquid to which the particles were originally exposed

5 A process according to claim 4 wherein multiple immovable stripes of the same binding partner for said biological ligand have been permanently affixed at the end that is remote from the sample receiving end of the strip of bibulous material and they are in spaced apart relationship from one another, whereby

(a) as the complexes flow along the strip, some portion of the target biological ligand therein binds to each of said stripes

(b) the magnetic moment of each stripe is measured,

(c) the respective magnetic moments of the stripes are totalled and

(d) the total magnetic moment is correlated in a known manner to the amount of target ligand originally present in the aqueous liquid to which the said particles were first exposed.

6 A process according to claim 4 in which the aqueous fluid is an aqueous environmental sample.

7 A process according to claim 4 in which the aqueous fluid is of mammalian origin.

8 A process according to claim 7 in which the aqueous fluid is urine.

9 A process according to claim 4 wherein the biological binding partner to the target ligand initially coated on the particles is the same as the biological binding partner that is immovably striped on the strip of bibulous material.

10 A process according to claim 4 wherein the biological binding partner to the target ligand initially coated on the particles is different from the biological binding partner to that ligand which is immovably striped on of the strip of bibulous material.

11 A process wherein particles as set forth in claim 2 are:

(a) are coated with a target biological binding partner for a biological ligand known to be, or suspected of being, present in an aqueous fluid,

(b) as so coated are then immersed in said fluid and incubated therewith for a time sufficient to enable any target biological ligand present to form complexes with said particles by reacting with its binding partner coated on said particles and

(c) said complexes are thereupon exposed to the gradient of a magnetic field whereby the complexes are sequestered from the bulk of the aqueous fluid.

12 A process according to claim 11 wherein following the sequestration of the complexes formed in step (c), the aqueous fluid is removed, the complexes are washed and dispersed in an aqueous buffer, and

(d) the resulting dispersion is applied to the sample receiving end of a dipstick-configured ICT device comprising a strip of bibulous material having at least one immovable stripe of a binding partner for said biological ligand permanently affixed thereto at the end remote from its sample receiving end,

(e) the dispersion migrates along said strip to said immovable stripe where the complexes, which have said target biological ligand bound thereto permanently bind to said stripe;

(f) the magnetic intensity of the stripe is measured and

(g) that intensity is correlated in a known manner to the amount of said biological ligand removed from the liquid to which the particles were originally exposed.

13 A process according to claim 12 wherein multiple immovable stripes of the same binding partner for said biological ligand have been permanently affixed at the end that is remote from the sample receiving end of the strip of bibulous material and they are in spaced apart relationship from one another,

(a) whereby as the complexes flow along the strip, some portion of the target biological ligand therein binds to each of said stripes,

(b) the magnetic moment of each stripe is measured,

(c) the respective magnetic moments of the stripes are totalled and

(d) the total magnetic moment is correlated in a known manner to the amount of target ligand originally present in the aqueous liquid to which the said particles were first exposed.

14 A process according to claim 11 in which the aqueous fluid is an aqueous environmental sample.

15 A process according to claim 11 in which the aqueous fluid is of mammalian origin.

16 A process according to claim 15 in which the aqueous fluid is urine.

17 A process according to claim 11 wherein the biological binding partner to the target ligand initially coated on the particles is the same as the biological binding partner that is

immovable striped on the strip of bibulous material.

18 A process according to claim 11 wherein the biological binding partner to the target ligand initially coated on the particles is different from the biological binding partner to that ligand which is immovably striped on of the strip of bibulous material.

19 Particles according to claim 1 whose the average mean diameter is between about 100nm and about 450 nm.

20 Particles according to claim 2 whose average mean diameter is between about 100nm and about 450nm.